

**Statement of Paul M. Longworth
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U. S. Department of Energy
Before the
Senate Armed Services Committee
U. S. Senate**

March 10, 2004

Introduction

Thank you, Mr. Chairman and members of this Committee, for the opportunity to appear before you today to discuss the activities of the National Nuclear Security Administration's (NNSA) Office of Defense Nuclear Nonproliferation. Before discussing our specific activities, I want to express how critically important I consider your contributions, both past, present and future, to the United States' efforts to prevent the spread of weapons of mass destruction (WMD). Of course, it goes without saying that our ability to address the myriad of proliferation threats that confront us requires that the U.S. Congress fully understand those threats, and that its members are confident that the money they are authorizing and appropriating to NNSA's programs is being used effectively and efficiently to both meet and exceed the goals to which this funding is directed. Your continued support for our programs demonstrates the Committee's long-standing commitment to furthering nonproliferation throughout the world. I appreciate your strong support and I look forward to our continued work together.

There have been concerns raised in the past that our nonproliferation programs are akin to an aid program to Russia rather than a focused element of our nation's agenda to prevent WMD

proliferation. As it is a cooperative effort, U.S. and Russian nonproliferation objectives are not mutually exclusive, and substantial progress has been made. I hope this presentation will help to ease these concerns by drawing attention to the critical role our programs play in stemming the spread of WMD throughout the world, and enhancing our national security.

In his recent speech at the National Defense University (NDU) in February, President Bush stated, “The greatest threat before humanity today is the possibility of secret and sudden attack with chemical or biological or radiological or nuclear weapons... America, and the entire civilized world, will face this threat for decades to come.” To meet this challenge, the President asked that we confront it “with open eyes, and unbending purpose.”

The Office of Defense Nuclear Nonproliferation has expanded and accelerated its programs to address this proliferation threat. We now work with more than 70 countries to prevent the spread of WMD, and we are continuously adapting our activities to meet today’s complex and unpredictable proliferation threats posed by “rogue” states and terrorist networks.

I would now like to briefly describe the specifics of our nonproliferation activities, address critical components of our FY05 budget request, highlight key accomplishments we have made, and outline current challenges that we face.

Mission

Today, we are faced with a number of proliferators, rogue states and terrorist networks that threaten United States and international security by actively pursuing WMD capabilities, technologies, and expertise. The Office of Defense Nuclear Nonproliferation plays a prominent role in responding to these WMD proliferation threats. We recognize the broad scope and complex nature of this threat, and understand that our programs must identify and address potential vulnerabilities within the nonproliferation regime before terrorists or rogue states exploit them.

Our mission is to detect, prevent, and reverse the proliferation of WMD, while mitigating the risks associated with peaceful nuclear energy operations. We implement this mission by:

- Conducting cutting-edge nonproliferation and national security research and development;
- Securing nuclear weapons and nuclear and radiological materials at potentially vulnerable sites in Russia and across the globe;
- Reducing overall quantities of nuclear and radiological materials;
- Bolstering border security domestically and overseas;
- Supporting international nonproliferation and export control regimes;
- Downsizing the nuclear weapons infrastructure of the former Soviet Union; and
- Mitigating risks at nuclear facilities worldwide.

By addressing key elements of the proliferation spectrum, these activities play an essential role in strengthening United States and international security. Our efforts are making the world more secure. But the nonproliferation regime still faces serious challenges from a few rogue states and terrorist threats seeking the capability to obtain WMD, and from those states that facilitate such activity or often appear indifferent to it. Lastly, we continue to receive reports of illicit efforts to acquire nuclear or radiological weapons technologies and materials.

Budget

The Office of Defense Nuclear Nonproliferation program works to prevent the spread of nuclear weapons and materials to terrorist organizations and rogue states. For FY 2005, the Administration requests \$1.35 billion to support activities to reduce the global WMD proliferation threat. Total dollars spent, however, is not the only measure for judging overall program effectiveness. It should be measured on accomplishments, which I will talk about later. This \$1.35B is a one percent increase over FY04, but it does not reflect the total funding for nonproliferation worldwide. We have moved into an era of global burden sharing. In 2002, President Bush proposed a new G-8 initiative on proliferation, and our partners have committed to spend up to \$10B over ten years to help decrease the proliferation threat, initially in Russia. The President has now proposed an expansion of the Global Partnership's donors and recipients, to address the proliferation threat worldwide. This burden sharing must be accounted for in the overall assessment of nonproliferation spending.

One of the key obstacles we have encountered this year is a disagreement with Moscow

regarding liability protection for plutonium disposition work performed in Russia. Even with the liability issue being worked on at high levels of the Administration, lack of resolution to date has resulted in a 10-month delay in the start of construction of a mixed oxide facility (or MOX facility) in Russia as well as a similar facility in the United States. The President's FY 2005 budget request seeks funding to begin construction of both the U.S. and Russian MOX facilities in May 2005, as we work to resolve the liability issue this spring. This reflects the U.S. commitment for proceeding with plutonium disposition.

Not only are we pursuing the disposition of weapons-useable plutonium, we are also working hard to stop Russia from producing more plutonium that could be used for nuclear weapons. We have assumed the responsibility from the Department of Defense (DoD) for shutting down the last three plutonium production reactors in Russia and replacing them with fossil fuel plants by a targeted 2008 and 2011 timeframe. This will result in the cessation of Russia's annual production of 1.2 metric tons of weapons-grade plutonium. Under the Elimination of Weapons-Grade Plutonium Production Program, we have selected the Washington Group International and Raytheon Technical Services to provide oversight for Russian contractors who will actually be performing the work at two Siberian sites. We are preparing preliminary designs for the planned fossil-fuel replacement plants and validating cost estimates for the program. As more of the engineering design work is completed, we will be better able to refine the overall cost and schedule for the replacement fossil-fuel plants. We expect to complete the detailed designs by the end of calendar year 2004, at which time we will be able to provide the Congress with firm cost estimates.

Given recent threats to the United States, it has become increasingly clear that protecting and securing nuclear materials and detecting nuclear and radioactive material at foreign ports, airports, and border crossings is a very high priority. Our budget request for Material Protection Control and Accounting (MPC&A), which includes our Second Line of Defense Programs and Megaports Program, is \$238 million. Of that, \$15 million will go toward moving ahead with our Megaports Program to train law enforcement officials and equip key international ports with radiation detection equipment to detect, deter, and interdict illicit trafficking of nuclear and other radioactive materials. We are scheduled to complete work at ports in Greece and the Netherlands by late summer 2004. We have made a number of security improvements to Nuclear Navy sites in Russia and we are now focusing resources on securing Strategic Rocket Forces sites.

In addition to this work, we are also pursuing a dialogue with other countries, including China. We hope that these activities will lead to broader MPC&A cooperation in the coming years.

In FY 2005, NNSA assumes responsibility for the Off-site Source Recovery Project from the Office of Environmental Management. The requested program funding is \$5.6 million, with a projected cost of about \$40 million over the next five years to substantially reduce the risk of these source materials being used for radiological dispersion devices. The program works closely with the U.S. Nuclear Regulatory Commission (NRC) to prioritize source recovery.

I would now like to detail our core mission activities and highlight some of our most recent accomplishments in each of these areas.

Accomplishments

The President's recent speech at the National Defense University included several nonproliferation measures designed to strengthen U.S. national security. Among his proposals, the President underscored the need to address the demand for the most critical elements of the nuclear fuel-cycle, enrichment and reprocessing, as well as a renewed, stronger approach towards the implementation of safeguards.

The Office of Defense Nuclear Nonproliferation is working directly with the members of the Nuclear Suppliers Group and with the Zangger Committee to strengthen the nuclear export control regime, that includes making the adoption of IAEA's Additional Protocol a condition of supply and banning the spread of enrichment and reprocessing technologies. Recognizing the need to work with emerging nuclear technology suppliers and transshipment states, we increased our work in the area of export controls by \$6 million.

Our work to secure nuclear materials, nuclear weapons, and radiological materials at potentially vulnerable sites in Russia and elsewhere is one of our most important missions. We are promoting the further safeguarding and physical protection of nuclear materials at nuclear sites worldwide, including the states of the former Soviet Union and in over 40 countries with U.S.-origin material. The United States and Russia continue to accelerate cooperative nonproliferation efforts, and we are making progress. For example, we have accelerated the timeline for securing 600 metric tons of weapons-usable nuclear material at 55 sites in Russia

and Eurasia by 2008. To date, we have upgraded the security of 41% of the material and compared to 2002, we tripled the amount of new material placed under comprehensive upgrades in 2003. We are also working internationally to consolidate and secure fissile materials and at-risk radioactive sources. We have upgraded security at thirteen nuclear facilities in Eurasia, holding 3.5 metric tons of weapons grade nuclear material, to meet international physical protection guidelines. Although our work continues to expand beyond the FSU, we are still working in the region to improve security at Russian Navy and Strategic Rocket Forces facilities – among the most sensitive facilities in Russia. We have expanded security upgrades of Russian Navy and Strategic Rocket Forces nuclear weapons sites and have secured 77% (30 sites) of the 39 Russian Navy warhead sites and initiated security upgrades at three Russian Strategic Rocket Forces sites.

Downsizing the nuclear weapons infrastructure of the FSU remains an important activity. Since the fall of the Soviet Union, we have worked hard to reduce the potential for diversion of WMD expertise, materials and technologies to terrorists and proliferant states. To meet this objective, we are working to redirect WMD scientists, engineers and technicians to peaceful work and reduce WMD complexes by downsizing facilities and creating sustainable civilian alternatives. Through the Russian Transition Initiatives Program, we have engaged over 14,000 former weapons scientists at over 200 institutes across the FSU in peaceful and sustainable commercial pursuits, attracting \$162M in private-sector matching funds and over \$140M in venture capital and other investments, created 25 new businesses in the closed cities, and facilitated the downsizing of Russia's nuclear weapons complex.

Late last year, the Office of Defense Nuclear Nonproliferation established the Nuclear and Radiological Threat Reduction Task Force, which represents another important step in combating the threats posed by radiological dispersion devices or “dirty bombs”. We created this Task Force to identify, secure, store on an interim basis, and facilitate the permanent disposition of high-risk radiological materials that could be used as a radiological dispersal device, both in the United States and overseas; and identify the most vulnerable research reactors worldwide and develop an action plan to mitigate these vulnerabilities. Working in close concert with foreign countries and the International Atomic Energy Agency, or IAEA, this Task Force will ensure that the NNSA has the capability to address the full spectrum of radiological threats, including locating and securing vulnerable radiological materials overseas, and recovering and securing unwanted and abandoned radioactive materials within the United States that pose security and health risks.

Bolstering border security as a second line of defense is another important component of our strategy. To implement this core mission, we develop and employ nuclear detection equipment at key border crossings, airports, and ports, including major seaports or “megaports,” worldwide. We also work hard to assist and train customs officials at home and abroad to detect the illicit trafficking of nuclear and radiological materials as well as identify dual-use commodities that might be used in WMD programs. Our hard work and cooperative efforts are paying dividends. For example, we have installed radiation detection equipment at 39 sites in Russia to detect, deter and interdict the trafficking of nuclear and radioactive materials. Russia has also supplemented our cooperative border security efforts by upgrading and installing similar radiation detection equipment at many more of their prioritized border checkpoints. We

maintain radiation detection equipment in more than 20 countries in the Baltics, Central and Eastern Europe, Central Asia, and the Mediterranean. We launched our *Megaports Initiative* at the Port of Rotterdam, which we are currently equipping with detection equipment at this international, high-traffic “megaport.”

We are not alone in our efforts. The international community and recipient countries have responded with strong support to advance our mutual nonproliferation interests. The G-8 Global Partnership has committed twenty billion dollars over the next ten years to work on nonproliferation issues in Eurasia. We are working cooperatively with our G-8 partners to leverage the funding that we have committed to Russia and the work in which we are involved. In another program, we are working with India and Pakistan to help them cooperatively work to find means to stop cross-border infiltration and avoid conflict.

Our cutting-edge research and development program improves the United States’ ability to detect and deter WMD proliferation and strengthen nuclear treaty regimes such as the Nuclear Non-Proliferation Treaty. Our R&D programs serve as the technical base that provides operational agencies – including the Department of Defense and the Intelligence Community – with innovative systems and technologies to meet their nonproliferation missions. For example, we have tested laser-based remote sensing systems to detect and characterize effluents from suspect WMD production facilities, and are designing miniature synthetic aperture radar sensors to fly on board unmanned aerial vehicles. Our technology-base programs yielded several radiation detection systems now being used by the Department of Homeland Security, and evaluated at the test bed that we established at the Port Authority of New York and New Jersey. And we have

developed and produced nuclear explosion monitoring sensor payloads for deployment on Global Positioning System and Defense Support System satellites, began designing the next-generation of space-based sensors, and are developing new tools to lower the threshold for detecting the yield of any nuclear explosion by two orders of magnitude. We continue to seek out improved solutions to emerging proliferation problems, and to coordinate our efforts with our U.S. government partners.

Strengthening international nonproliferation and export control regimes is another essential cornerstone of our efforts. We support U.S. nonproliferation treaties, initiatives, and agreements and work to strengthen international safeguards to detect clandestine nuclear programs and diversion of nuclear material from declared programs. By working with our international partners, we have accomplished a great deal to further the world's nonproliferation regime. Some of our recent accomplishments include Secretary Abraham's signing of the Statement of Intent on Peaceful Uses of Nuclear Energy and Nuclear Nonproliferation and Counter terrorism with Chairman Zhang Huazhu of the China Atomic Energy Authority this January in Beijing. Also in January, NNSA Administrator Brooks testified before Congress to urge prompt action on the Additional Protocol between the United States and the IAEA, to strengthen our hand in seeking other states' acceptance of strengthened international safeguards. In addition, we opened a Cooperative Monitoring Center in Amman, Jordan that will serve as a regional forum to discuss technical solutions to proliferation and other regional security problems. And we are spearheading changes to Nuclear Supplier Group Guidelines to make the prevention of nuclear terrorism an explicit export control objective.

To reduce stockpiles and available quantities of nuclear materials, we are working with Russia to irreversibly blend-down at least 500 metric tons of surplus highly enriched uranium (HEU). At the end of 2003, over 200MT had been eliminated. We are also working with our Russian counterparts to shut down the three reactors in Russia that are still producing weapons-grade plutonium, and we are coordinating with them to return Russian-origin spent fuel to Russia. We further reduce quantities of weapons-usable HEU by converting research reactors in the United States and abroad to use low-enriched uranium (LEU) and working to eliminate 174 metric tons of HEU in the United States. The Office of Defense Nuclear Nonproliferation also is working proactively and cooperatively with Libya and international partners to dismantle Libya's WMD infrastructure. Currently, we are playing a leading technical role in the support of the operation to verify the dismantlement of Libya's nuclear program, and are playing a similar role in preparing for the complete, verifiable, and irreversible dismantlement of North Korea's nuclear weapons program. In 2003, we helped remove 17 kilograms of Russian-origin HEU from Bulgaria and returned it to Russia for safe storage. We also worked with Russia and the IAEA to return approximately 14 kilograms of fresh Russian-origin HEU from Romania to Russia to be down-blended and used for civil nuclear purposes.

Our final core mission objective is to mitigate risks at nuclear facilities worldwide. To reach this goal, we are providing assistance to Russia and Eurasian countries to establish enhanced emergency response programs, and we are working cooperatively with Russia to improve the safety and security of its nuclear weapons during transportation and storage in connection with dismantlement. We are focused on improving nuclear emergency management practices worldwide by working with the IAEA and other western countries. For example, we worked to

strengthen the IAEA's notification capability in the event of a nuclear emergency and are assisting Ukraine, Russia and Japan in establishing emergency management training programs.

Challenges

Preventing the proliferation of WMD materials, technology, and expertise is a major undertaking, and developing a multi-layered approach to address these threats has not been without its challenges. In implementing our nonproliferation programs, liability issues, transparency, access, and concluding contracts and agreements will remain challenges in the years ahead. Since our nonproliferation programs are cooperative in nature, the progress we make is largely dependent on complex negotiations with Russia and other countries.

Consequently, we will continue to face challenges in our work, particularly in Russia. I will now discuss these challenges in more detail.

Liability

Resolving liability issues with the Russians remains a key challenge. American workers and contractors must have adequate liability protection in Russia and elsewhere. We are urging the Russian Government to seek quickly Duma ratification of the Cooperative Threat Reduction (CTR) umbrella agreement that contains full liability protections. CTR ratification will facilitate agreement on a number of our critical nonproliferation programs, including the construction of U.S. and Russian mixed oxide (MOX) facilities to dispose of 34 metric tons each of surplus plutonium and continuing cooperative projects under the Nuclear Cities Initiative.

Transparency

Achieving adequate transparency is an ongoing problem for many U.S. nonproliferation initiatives with the Russian Federation. Assuring that we are, in fact, securing the materials and facilities intended has been challenging. The NNSA will continue to work both bilaterally and multilaterally to ensure that our mutual goals are met and that cooperative programs remain objective, are preventing the proliferation of WMD, and promote long-term self-sustainability.

Access

Nonproliferation programs often require access to other countries' most sensitive nuclear facilities. In Russia considerable progress has been made accessing less sensitive sites. While we have had some success, we must continue to work to gain access to Russia's more sensitive sites and facilities. A working group has been established by Secretary Abraham and Minister Rumyantsev to address this issue and is testing new procedures for access to more sensitive Minatom facilities. It goes without saying that reaching agreement on access to these sites is a major challenge and will require patience and steadfastness on our part. After access agreement is reached, we must assure that its terms are honored.

Contracts and Agreements

Finally, concluding contracts and agreements is a complex process. Even after there is agreement in principle to undertake a given nonproliferation program, actually implementing such a program requires time to bear fruit. Achieving concurrence on written agreements to move forward is often the first challenge to overcome. As a recent example, the Russian interagency must digest an agreement to return Russian-origin spent fuel back to Russia and

dispose of it to reduce the amount of global HEU. While we expect this review to happen in the near future, it is indicative of the substantial efforts that both sides must undertake. After the requisite agreements are in place and agreed to by both parties, objective and realistic milestones have to be developed before any contract can be awarded, and performance metrics established to address how those milestones will be met. Overall program success is incumbent on sound fiscal stewardship, and we believe that we are taking the necessary steps to effectively maximize program success rates.

There are a number of steps we have undertaken to meet these challenges. First, the Secretary of Energy has developed a close relationship with the Acting Minister of Atomic Energy and overcoming these challenges in the nonproliferation arena has been a priority. Secretary Abraham intends to continue to work constructively with the Acting Minister or his successor. Second, at the working level, experts from our programs leverage over a decade of experience and relationships with their Russian counterparts to resolve contentious issues through sustained negotiations.

The Committee's support is also critical to overcoming these challenges and to the overall success of our programs. Although I am optimistic that we will be able to work through these challenges, your continued support will play an important role as we create and implement solutions to overcome current obstacles.

Conclusion

To summarize, I would again draw your attention to the progress our program has made in recent years and the acceleration with which we have expanded our activities to meet the complex and unpredictable security threats of our time. In doing so, we have strengthened the security of our nation and are making the world a safer place. Working in concert with other U.S. Government agencies, the Office of Defense Nuclear Nonproliferation will continue to promote high-level political commitment among our cooperative country counterparts to establish an effective, comprehensive capability that can proactively react to an evolving threat environment. Our focus is on stemming the proliferation of WMD materials, technology, and expertise, and we will continue to work diligently and responsibly to counter that threat.

Mr. Chairman and members of this Committee, this concludes my prepared statement. I would be pleased to answer any questions that you and members of this Committee may have.